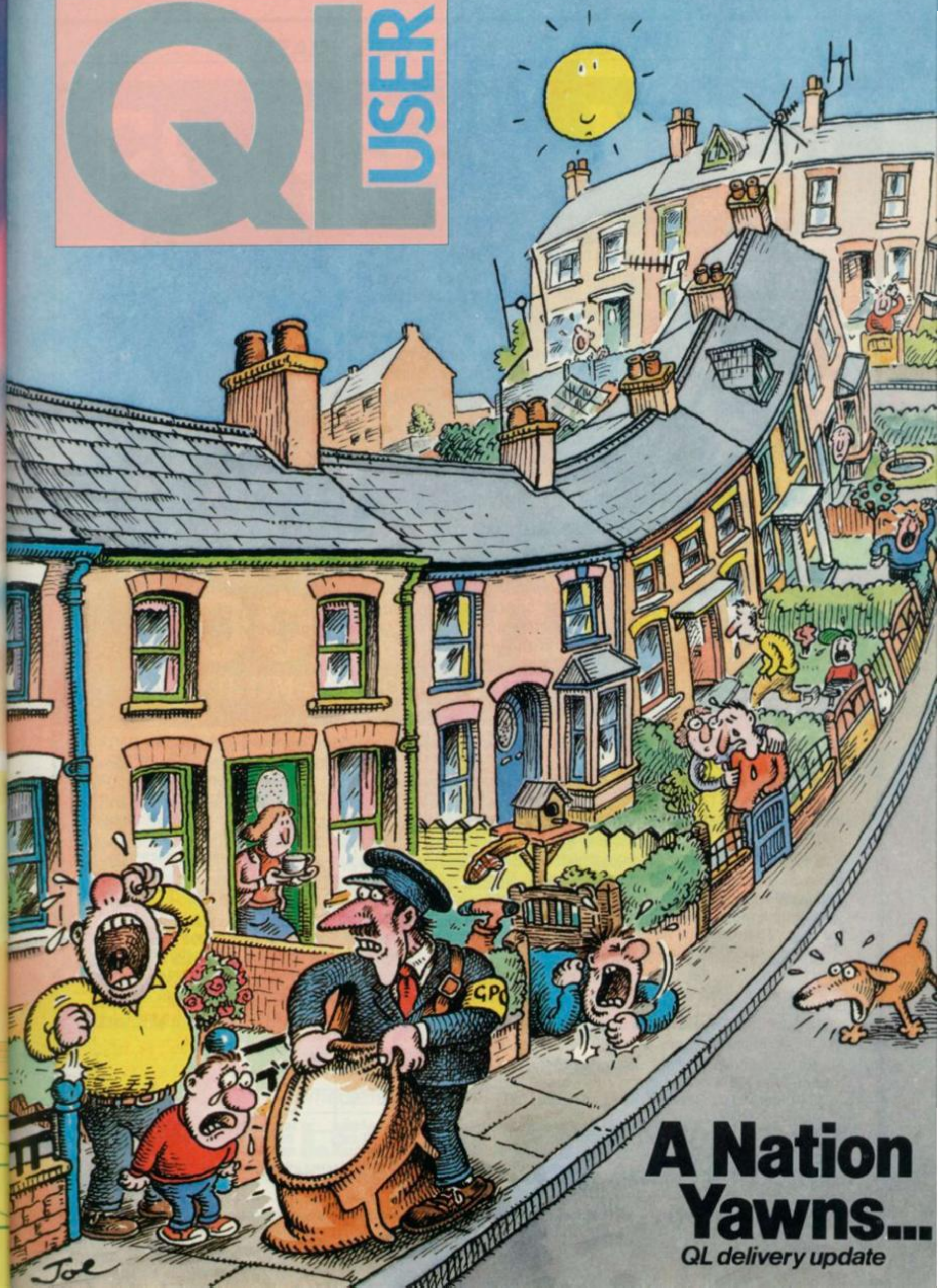


QL USER



**A Nation
Yawns...**
QL delivery update

READY FOR THE FLAT SEASON

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Q L N E W S

Supplying the Mythical with the Hypothetical

In the race to produce hardware add-ons for the as yet unseen Sinclair QL and, of course, gain the distinct commercial advantage of being first, manufacturers are still falling over each other trying to get their hands on either a machine, or a detailed technical specification. And interestingly enough, lack of information hasn't stopped at least two companies from advertising their hypothetical wares.

The first of these is Miracle Systems of Cambridge, which is planning to supply the QL owner with a parallel printer interface. "But", we asked Mr Honeyball, "how can you produce such a device without the necessary

technical details?"

"Well, actually" he said "it's not in production yet. But it'll only take us three or four days to tailor the interface after the first batch of QLs become available". Anyway, for £49 the purchaser gets an interface that plugs into the serial port, and one that doesn't require any software to drive it. With any luck it should be available some time in April. More details on 0223 312886.

Xcom (Services) Ltd, of London, has started advertising a QL compatible floppy disk drive, and this will be supplied with a controller that plugs straight into the expansion slot. But until Xcom can get a QL to play with, customers will have to make do with an RS232 interface, says the company's Mr John Seaman.

There is, however, one company claiming to have a

'friend' at Sinclair Research who has been able to supply not only information, but QLs for limited periods of time. This has apparently enabled the company to copy the ROM, disassemble it, work out what's going on and design add-ons accordingly. But sad to say, all this effort has so far come almost to naught. Each different machine popped through the back-door has been modified to overcome certain inherent problems. All of which, says our source, suggests that Sinclair Research is still changing the hardware. Our Cambridge mole is also able to confirm rumours that the Basic is so full of 'bugs' that it keeps crashing, and that the manual still hasn't been completed. Were all this to be true, we might be seeing delivery dates nearer to Christmas than Spring! **RS**

The Great QL Accumulator

The latest official news from the Sinclair Research camp would seem to indicate that QLs will not have been despatched until the end of March has gone. The company had originally scheduled delivery of the first machines to customers for the end of February, but due to delays "caused by the final stages of development taking longer than planned", the opening date has been put back a month.

Attempts to discover the reason for the switch from "phenomenal demand" to "development problems" to explain away the delay were met with frosty replies that amounted to little more than "no comment". Also parried were questions on current rumours that suggest the company has no QLs in stock (at time of writing) and that the SuperBasic ROM was still in the design stage when the device was launched.

Sinclair Research has already sent out letters to all who've staked their claim for one of the wonder machines, explaining the delay and informing them (roughly) when to expect delivery. For those who ordered their machine at the launch, the letter proclaims hopefully that "we expect to be able to deliver your QL not later than the end of May". However,

If you have applied for QLUB membership, we will be sending your membership card with your QL, and your twelve month period of membership will commence at that time. During your membership you will receive 6 issues of the QL newsletter, the first of which will be sent shortly after your QL.

The demand for the QL has been phenomenal from the day we launched it. We expect to be able to deliver your QL not later than the end of May. We realise that the time between now and then will be frustrating, but we are confident that your QL will be worth waiting for and, of course, we will do everything possible to beat our target date for sending it.

Yours sincerely

Nigel Searle
Nigel Searle
Managing Director

Part of the original 'dear John' letter sent out by Sinclair Research.

the grapevine would seem to suggest that orders were placed in a very large hat and picked out at random — something which has not pleased many of the software houses who biked over their orders to Sinclair Research HQ, even before the dust had settled from the launch.

Although Sinclair Research is being fairly tight-lipped about the state of play, the word is that the company's Camberley offices are receiving about 500 orders a day — which works out at something like a staggering £200,000 daily!

Assurances have been made by Sinclair Research that none of your precious money will be frittered away while you're sitting there awaiting the postman's knock. The cash is reported to be stashed away in a trust

fund so no-one can get their hands on it — but just who will reap the benefits of the interest is anyone's guess. The only consolation for those who've shelled out handfuls of the green folding stuff is that Sinclair Research is thinking of giving the late receivers a 'free' gift to compensate for the wait — although according to a Sinclair Research spokesperson, "we don't know what it will be — that has yet to be arranged". Sounds interesting!

So, if you'd like to enter your name in the QL 'tombola', you'll probably get a free something or other. However, if you want to hang on to your money until your QL is despatched, you'd be better advised to order via a credit card — that way no money will change hands until delivery is due.

Fired with enthusiasm by the spectacular launch of the new Sinclair QL, software houses wasted no time in placing their orders for one (or 10!) of Sir Clive's wonder-machines. Naturally they were keen to start writing all manner of new and interesting programs to keep the new QL owner suitably amused. That dream soon got lost amidst the mountain of unfilled orders and discarded production schedules. However, still undaunted, YS decided to track down any brave (foolhardy?) pioneers out there, eager to be first in the great QL race — when it begins that is!

OUT IN THE COLD

Paranoia seemed the order of the day. Most of the software producers we talked to all seemed to think that some independents had some kind of special relationship with Sinclair Research that enabled them to receive early machines, they being left out in the cold. This was echoed by John Fletcher of PSS who said "There are perhaps one or two software houses who might have a QL, but we certainly don't". He did add, however, that when a machine did arrive they would consider putting something together.

A little more optimistic, if just a touch confused, was Carol Hewlett from CDS Microsystems. When asked if CDS had any plans for producing QL software she said, "We're definitely writing software for the QL, but at this stage I can't tell you what it is". Was it going to be business or games software? Even education, perhaps? No good, Ms Hewlett wouldn't be drawn. So what about the machine itself. Do you actually have a QL, we asked. "Yes, I think so," she said. A strange answer, considering the vast number of people who would give an arm and a leg — if not other more valued parts of their anatomy — to have one available. We asked Ms Hewlett to check her stock of QLs. She said she would and promised to phone back. We're still waiting.

GLIMMER OF HOPE

Just in case CDS are, in fact, QL-less (and good news anyway for all those who want to know what's happened to their orders), Carnell's Stuart Galloway offers a glimmer of hope. He phoned Sinclair Research at the beginning of March to enquire what had happened to his machine; his cheque having already been cashed. He was told by a "pleasant young lady" that the first batch of QLs were going out the very next day. She didn't tell him to hold his breath — and he hasn't. These delays, however, don't worry Mr Galloway. Two weeks before the machine was launched, he

Around the Houses



With tongues wagging throughout the industry, Ron Smith, software sleuth, tracks down the rumours to their source and tries to answer the question on everybody's lips — just who has got a QL?

signed up a programmer "who knows the 68008 like the back of his hand", and has got to the point where he's completed a utility program on paper — all he needs now is a machine to test it on!

Equally interested, though less concerned with trying to write software at present, is Bug-Byte. Their Tony Baden feels that "it could well be Christmas before the QL is in the shops", and if that does turn out to be the case, as he says "there's very little point in rushing". Another stumbling block, according to Baden, is the lack of a cassette interface. This, he feels, could be a serious disadvantage, especially when coupled with the apparent lack of QL Microdrives.

SPREADING GOSSIP

The doom-laden and negative comments continued with Program

Power's Chris Payne who said "we will be writing software for the QL, when we can get hold of one. But for the time being, we'll just have to wait". However, plans do seem to be afoot, because Chris says "we'll be approaching QL software development from both angles, ie. business and games". He also didn't miss the opportunity to perpetuate a few rumours, by saying "I'd heard the Basic hadn't been finished yet" which should please the technical staff at Sinclair Research.

Spreading gossip was obviously the order of the day because Mr Payne proceeded to let slip that his colleague was "one of those Cambridge (or was it Oxford?) dons, who's done plenty of work on the 68000 chip" (although the gentleman in question, John Haig, might not like that to be too widely known).

Both Mikro-Gen and Quicksilver felt that their existing close links with Sinclair Research had had absolutely no effect on them getting an early machine. In fact, Mikro-Gen's Mr Denial (*Who he? Ed.*) kept very quiet, and would only say that "it's early days yet — we've nothing planned". And Quicksilver's Paul Cooper told us that they were "having lots and lots of talks with Sinclair Research, but it doesn't appear to be having any effect". It's the same old story of a software house with "plans and ideas for QL software" who will just have to wait "until one turns up". Mr Cooper was also in the mood for joining the gutter grapevine. He said "I heard rumours at the LET show that machines wouldn't be available until the third quarter" — which may well turn out to be nearer the truth than many would like to think.

Artic, like everyone else, is just waiting to get its hands on a machine. Their Margaret Turner remarked that the "plan is to transfer some of our Spectrum software to the QL".

A GOOD LEAD

There is, of course, one company in the land that's had no trouble at all laying its hands on a machine — and that's Psion. Talking to Charles Davis about the immediate future, he said "We're continuing to produce software for the QL, in addition to the four packages already announced. But it would detract from the impact of future releases if we were to talk about them now". He did mention, however, that *Flight Simulation* would be available in the near future. But what about independent software producers? Mr Davis again: "My view is that everyone will be producing software for the QL, but we have a good lead, as we've got some machines". Lucky for some!

Soft Sells

The old story that software sells computers is taken to heart on the QL where the four Psion packages that come with the machine provide serious business tools at a home micro price. Quentin Lowe has a look at the software that maketh the machine...

QL QUILL

The word processor QL Quill is going to be the predominant influence on QL sales. For a mere £400 plus the cost of a printer, it allows the QL to be used as a serious small word processing tool — breaking, for many newcomers, a genuine price barrier.

Quill is a serious grown-up word processor — text appears on screen in the same format it will be printed — and if you want justified text, it's justified as you type. Page breaks occur visibly on the screen, underlined text is underlined and bold text is highlighted in a different colour. Forgetting all the arguments about what is and what isn't wanted in an editor, this system makes Quill very simple to learn and use.

There are all the usual features — search and replace, block copies and moves and so on. You also get the luxury of a glossary feature — any frequently needed phrase (or set of commands!) can be assigned to a particular letter key ready for instant recall. Quill even saves the glossary to its Microdrive between sessions so it's always there when you work.

It's most serious limitation is one which affects many small machine packages — the maximum amount of text that can be edited at any one time. With Quill, it's likely to be around ten pages — enough for letters, reports and so on but perhaps a restriction for some people. Even so, there's no doubt that Quill is good enough for its challenging role.

QL ABACUS

Abacus provides a serious spreadsheet package on a par with top-selling programs like Multiplan and VisiCalc. Although QL User has yet to have the chance to perform formal benchmarks, the program is very responsive in use. What's more, Psion seems to have actually introduced one or two sensible and welcome extensions to

QUILL

WHEN YOU WANT TO UNDERLINE A LINE OF TEXT, THE UNDERLINING IS ACTUALLY DISPLAYED ON-SCREEN.

YOU ADJUST THE LEFT MARGIN SIMPLY BY POSITIONING THE CURSOR ALONG THE RULER LINE.

THE COMMAND LINE IS USED TO BUILD UP INSTRUCTIONS IN A STEP-BY-STEP APPROACH. HERE THE USER IS INSTRUCTING THE WORD PROCESSOR TO ADJUST THE LEFT MARGIN.

PRESSING THE FUNCTION KEY 'F2' PROVIDES YOU WITH THE 'PROMPTS' BOX. HERE THE MARGIN COMMAND IS BEING EXECUTED. PRESSING THE 'F1' AND 'F3' FUNCTION KEYS GIVE YOU 'HELP' WITH THE PACKAGE AND A LIST OF THE COMMANDS YOU CAN USE WITH QUILL, RESPECTIVELY.

THE DEFAULT MODE IS USED TO INSERT TEXT AT THE POSITION OF THE CURSOR.

JUST IN CASE YOU GET TOO CARRIED AWAY, THERE'S A CONTINUOUS WORD COUNT ON-SCREEN.

BOLD TEXT IS HIGHLIGHTED IN GREEN.

ABACUS

HAVING PRESSED THE 'F3' FUNCTION KEY, THE 'COMMANDS' BOX APPEARS ON-SCREEN PROVIDING YOU WITH A LIST OF THE COMMANDS THAT CAN BE USED WITH ABACUS.

CELL REFERENCES CAN BE MADE VIA THE TRADITIONAL A1, B1, ETC. OR BY AUTOMATIC TEXT LABELS.

SHOULD YOU WISH TO ACCESS ANY CELL, THIS IS EASILY DONE BY TYPING 'PROFIT.MARCH' FOR EXAMPLE. THIS CAN ALSO BE ACCESSED IN THE SHORTER FORM 'PROF.MAR'. SPECIFYING THE ROW AND COLUMN INTERSECTION LABELS ALLOWS THE PACKAGE TO DEDUCE THE CELL YOU WISH TO MANIPULATE AUTOMATICALLY.

THE RED CURSOR HIGHLIGHTS THE CURRENT CELL YOU ARE OPERATING ON — IN THIS CASE, JUNE.

ON ABACUS, THIS ROW IS ALWAYS LABELLED 'PROFIT'.

THE FORMULA TO REFERENCE ANY CELL IS ALWAYS VISIBLE ON-SCREEN.

THE SCREEN CAN BE SPLIT INTO TWO WINDOWS, BOTH OF WHICH CAN BE OPTIONALLY LINKED TO MOVE IN TANDEM.

USING THE REFERENCE 'MAY', YOU CAN MANIPULATE THIS WHOLE COLUMN.

the facilities normally available in spreadsheets.

The first is cell labelling. Traditionally, each cell in a spreadsheet has been named by co-ordinates, such as A1, B2 or R3C4 and so on. Some newer packages have had a labelling facility where you can give cells sensible names. With Abacus, all text in the sheet can be used as labels — the

program automatically deduces which cells to use when you use a label in a command.

And Abacus is extremely good at text as well as numbers. There are lots of functions dealing with character information (such as INSTR, CODE, UPPER, LOWER and so on), making it easy to generate really comprehensible and easy-to-use

ARCHIVE

ALONG WITH THE ARCHIVE PACKAGE, YOU GET A SAMPLE FILE CALLED GAZETTEER — THE ONE THAT HAS ALWAYS BEEN PART OF PSION'S VU-FILE PROGRAM FOR THE SPECTRUM.

OF ALL THE PACKAGES SUPPLIED WITH THE QL, ARCHIVE IS THE ONLY ONE THAT IS COMMAND-LINE DRIVEN. YOU CAN EITHER USE THE COMMANDS ALREADY BUILT INTO THE PACKAGE OR YOU CAN DEFINE YOUR OWN PROCEDURES.



PRESSING THE 'F3' FUNCTION KEY ALLOWS YOU TO SEE ALL THE COMMANDS YOU MAY WISH TO USE ON ARCHIVE. THESE ALLOW YOU TO USE THE QL AS A SIMPLE CARD INDEX.

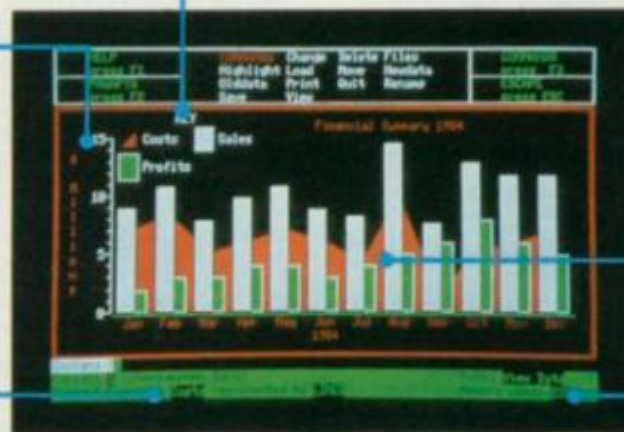
HERE THE SCREEN LAYOUT USED IS THE ONE THAT IS SET UP BY DEFAULT BY THE PACKAGE ITSELF. HOWEVER, YOU CAN ALSO ACCESS THE DATABASE WITH A NUMBER OF DIFFERENT LAYOUTS OF YOUR OWN DESIGN.

EASEL

YOU WILL AUTOMATICALLY GET A KEY TO THE GRAPH ON-SCREEN AS A GUIDE TO WHAT EACH COLOUR REPRESENTS.

ACCORDING TO THE DATA YOU PROVIDE THE PACKAGE, THE AXES ARE AUTOMATICALLY SCALED AND

THIS IS AN INDICATION THAT THE CURRENT SET OF DATA BEING WORKED ON IS THE 'COSTS'. SALES AND PROFITS HAVE ALREADY BEEN DEALT WITH AS SEPARATE ITEMS OF DATA AND HAVE BEEN PLOTTED ON-SCREEN. SHOULD YOU WISH TO MANIPULATE DATA ALREADY ON-SCREEN, YOU CAN EDIT THEM USING THE 'OLDATA' COMMAND.



THE GRAPH SHOWN IN THE SCREEN SHOT IS AN OVERLAPPED BAR CHART ILLUSTRATING SALES AND PROFITS, COMPLETE WITH THE COSTS SUPERIMPOSED AS A LINE GRAPH FILLED TO THE X-AXIS.

ALL THE PACKAGES PROVIDED ON THE QL UTILISE THE 'PERCENTAGE MEMORY LEFT' DEVICE, POPULARISED BY MICROSOFT. THIS GIVES YOU A NON-TECHNICAL INDICATION OF FREE MEMORY.

models. This ability should open up many more applications for *Abacus*, making it one spreadsheet that's suitable for more than just accounts.

QL ARCHIVE

Archive is a heavyweight database package with the added attraction that it can be operated on a simple level with no more trouble than a trivial

program (such as Psion's own *Vu-file*) on the Speccy. To do this, Psion has gone for a now traditional card index format, with each entry in the database effectively being its own 'card' and being divided up into separate fields of information.

A set of simple commands have been added to let you introduce new records, search for information and

so on. And the clever bit is that you then discover a whole new programming language hidden away inside *Archive*. It's at a higher level than Basic — with powerful English-like commands and a special intelligent editor that takes care of program layout for you. *Archive* has commands that let you have a number of different screen layouts with any one file, combine different files and so on.

The result is that you can customise *Archive* exactly to a particular application, in much the same way as packages such as *dBase II*. All that power does make it the hardest of the four packages to learn, although you can get into it very easily just by starting off with a simple card index. However, compared to most products of a similar capability, even the most complex of *Archive* procedures is relatively easy...

QL EASEL

Easel is one of those packages that's good for a quick thrill — a sort of 'what can it do then?' program that gives instant and dramatic results. It's designed to produce business graphics — bar charts, line graphs, pie charts and so on — and in an area that's still relatively new to computing, *Easel* is likely to be something of a pioneering program.

Most business graphics packages are turgid programs that are either too complex to be practical or too restriction to be of use. *Easel* is really easy. It's based around complete named sets of data — which may have been typed in, imported from another program (*Abacus* perhaps!) or even derived from existing sets of data using *Easel*'s built-in simple calculation facilities. Once in, you can graph any of the data in any way you like — mixing different sets on the same graph, tipping the graph sideways, customising the design of the bars and background right down to carefully adding special labels, and positioning the key where you want it. You can also make further cosmetic changes to the graph, such as colour alterations, solid outlines and 'filled-in' areas.

All the time *Easel* provides sensible suggestions for things you've not specifically detailed. It scales and labels the axes and provides a key; you can also do as little or as much work as you like on achieving the perfect final product. Compared to other top business graphics packages, *Easel* doesn't offer any dramatic new abilities. What it does provide, however, is a system that's so quick and easy to use that you don't mind messing about getting the best result — an ideal tool for producing effective graphs in the minimum of time.

Holy Structures... It's SuperBasic

Zap, Pow, Blam... just when you thought it was safe to get back to unstructured waters, along came the Cambridge Joker in his QL-Mobile with a surprise present — SuperBasic — to threaten an imprecise programming world. Andrew Pennell battles to explain...

The subtly named SuperBasic on the QL appears to have interesting features, particularly its ability to use Pascal-like structures, similar to BBC Basic. I say 'appears' because at the time of writing (some weeks after the 28-day expiry) no QLs have been manufactured; this article is based mainly on information given in the provisional *User Guide* and therefore no guarantees can be given as to its total accuracy.

Having thus 'copped out', let's first of all consider the subject of structured programming. Different people have different views, but for me it's programming in such a way as to be 'self-documenting' — that is, you're able to work out what a section of program does without too much effort. The much maligned GO TO and GO SUB statements have long come under attack by purists — certainly they make program flow more difficult to follow on paper. The QL manual says that the extra SuperBasic commands make these statements superfluous, and there's a lot of truth in it. When I was taught Pascal, I remember the lecturer putting a total ban on the GO TO statement, which horrified me at the time. But she was right — you don't need it in Pascal, and you shouldn't need it in SuperBasic, if you use the control structures efficiently; none of the QL programs in this article have it.

There are four major enhancements to bog-standard Basic in the QL that relate to structured programming — functions, procedures, REPEAT loops and the SELECT command. They are very similar to certain Pascal statements, except that SELECT in SuperBasic is known as CASE in Pascal. I shall endeavour to show you each of them in use, and compare them to their 'equivalent' in Spectrum Basic.

LOOKING AT FUNCTIONS

QL-type functions are a great improvement on Spectrum types, allowing as they do multi-line definitions and the use of local variables. On the Spectrum, DEF FN statements could only be followed by an

expression, with no other statement types allowed. Any attempts at recursion (ie. the function calling itself) resulted in an 'Out of memory' error, after a delay while the machine stack filled. SuperBasic functions, on the other hand, do allow recursion, as well as single-line definitions with the normal syntax.

An example of a recursive function is shown on Listing 1a, where a function called 'fact' calculates the factorial of a number. (The factorial of a number is the result of all integers up to and including it being multiplied together — eg. factorial 4 = 1x2x3x4 = 24.) Lines 1010-1020 check first for factorial zero, which by definition

"The QL manual says that the extra SuperBasic commands make the GO TO and GO SUB statements superfluous"

is '1'. It does this by using the QL IF...THEN...ELSE commands, and RETURN 1 is the way to return a value of one of the function. If it's not zero, then lines 1030-1040 make the function return a value calculated from another factorial, hence the recursion.

The Spectrum version is shown in Listing 1b and it has several disadvantages when compared to the QL version — and that's apart from its lack of structure. In particular, the variable i is corrupted by the routine, and the 'input' variable must always be a, and the 'output' variable is always fact. With the QL version, there are no variable restrictions — if you wish to make zz equal to the factorial of b, then you could use zz=fact(b).

As you can see, to use a QL function you don't need the RN of other Basics — you just use it like any of the built-in functions.

Listing 2a shows another QL function, which is used for a 'live' string input routine called 'getstring\$'. It shows several of the QL's features, the first of which is LOCAL. If you want to use variables in a function definition (or in procedures, shown later) and you don't want them to affect any variables in the rest of the program, then the use of LOCAL will ensure that the values of any existing variables with the same name are preserved through the function or procedure, then restored afterwards.

Another 'structured' feature is the REPEAT command, used for looping. Basically, if you want a loop of some sort, put 'REPEAT somename' at the start, and 'END REPEAT somename' at the end. Then, where you want to put a test to leave it, use 'IF condition THEN EXIT somename' and the named loop will no longer execute. Unfortunately, this is not very similar to either Pascal or BBC Basic's REPEAT...UNTIL construct, making conversion more difficult.

The final, rather neat, feature used is the SELECT statement, which allows easy choices to be made without unwieldy IF...THEN statements — something which has not been implemented on any previous Basic. Line 1010 ensures first that any variables called a\$ or b\$ in the calling program are not affected, and then it enters the main loop, 'getloop'. The two REPEATs in lines 1030 and 1040 are *short* forms of the statement, and execute the multi-statements that come after them automatically without END REPEAT commands; they're used in the function to scan the keyboard.

Lines 1050-1170 consist of SELECT statements for taking a number of different actions, depending on the key used. If Newline (CHR\$ 13) is pressed, then the main loop, 'getloop', is left. If backspace (CHR\$ 8) is pressed, then (if allowed) a backspace is printed and a character removed from the end of b\$. Note that QL string handling is conducted in the same (non-standard but neat) way as the Spectrum and ZX81. If it's a non-control character (lines 1120-1160) it's printed, then added to b\$.

Finally line 1190 ensures that the value returned from the function is b\$.

For reference, the Spectrum equivalent is shown in Listing 2b and it displays similar disadvantages to Listing 1b. I've made one assumption in the QL version, and that is that backspace is CHR\$8 (it should be as it's the ASCII standard code).

As well as functions, the other major structure addition is that of procedures. A procedure is a sequence

of instructions, optionally using parameters, which is basically just an upmarket GO SUB. They each must have a different name, and are invoked by simply using their names, unlike fussy BBC Basic which requires PROCNAME. This allows extra commands to be added, without resort to the machine code that's required when adding commands to the Spectrum — and the BBC Micro for that matter.

In Listing 3a, a QL procedure

called 'box' is defined which, not surprisingly, draws a box that's defined by its bottom left-hand corner, its width and height. The QL has an improved version of DRAW, which can cope with many parameters, each separated with TO. To use it, for example, to draw a box at (10,20), size 300x200, is simply: box 10,20,300,200.

Note that unlike DEF PROC no brackets are required when the procedures are actually used. The Spec-

SuperBasic-A Spectral Comparison

```
1000 DEF FN fact(a)
1010 IF a=0 THEN
1020 RETURN 1
1030 ELSE
1040 RETURN a*fact(a-1)
1050 END IF
1060 END DEF
```

Listing 1a

This is an example of recursion, where the function 'fact' calculates the factorial of a number. Note the use of QL keywords IF... THEN... ELSE.

```
1000 DEF FN getstring$
1010 LOCAL a$,b$
1020 LET b$=""
1025 REPEAT getloop
1030 REPEAT getpause: IF INKEY$="" THEN EXIT
getpause:
1040 REPEAT getkey: LET a$=INKEY$: IF a$<>""
THEN EXIT getkey
1050 SELECT ON CODE a$
1060 ON CODE a$=13
1070 PRINT: EXIT getloop
1080 ON CODE a$=8
1090 IF b$<>"" THEN
1095 b$=b$(TO LEN b$-1)
1100 PRINT CHR$(8); " ";CHR$(8);
1110 ENDIF
1120 ON CODE a$=32 TO 127
1130 IF LEN b$<32 THEN
1140 b$=b$+a$
1150 PRINT a$;
1160 ENDIF
1170 END SELECT
1180 END REPEAT getloop
1190 RETURN b$
1200 END DEF
```

Listing 2a

This program example illustrates a 'live' string input routine called 'getstring\$'. Notable QL features to watch out for are the LOCAL, REPEAT and SELECT commands.

```
1000 DEF PROCbox(x,y,width,height)
1010 PLOT x,y
1020 DRAW x+width,y TO x+width,y+height
1030 DRAW x,y+height TO x,y
1040 END DEF
```

Listing 3a

This QL procedure draws a box by defining its bottom left-hand corner, width and height. More complex parameters may be included, separated by the keyword TO.

```
1000 DEF PROCpformat(b)
1010 LOCAL a,a$
1020 a=(INT (b*100))/100
1030 IF a<.01 THEN PRINT " 0.00"; RETURN
1040 IF a>100 THEN PRINT " ?.??" : RETURN
1050 a$=STR$ a
1060 IF a$(1)="" THEN a$="0"+a$
1070 IF a$(LEN a$-1)="" THEN a$=a$+"0"
1080 IF a$(LEN a$-2)<>"." THEN a$=a$+".00"
1090 REPEAT strlen
1100 IF LEN a$=9 THEN EXIT strlen
1110 a$=" "+a$
1120 END REP strlen
1130 PRINT a$;
1140 END DEF
```

Listing 4a

This procedure is suitable for a financial package in which you wish to right-justify a series of numbers on the decimal point. Again, use is made of the LOCAL and REPEAT commands.

```
1000 LET fact=1
1010 IF a=0 THEN RETURN
1020 FOR i=1 TO a
1030 LET fact=fact*i
1040 NEXT i
1050 RETURN
```

Listing 1b

The Spectrum Basic version of Listing 1a — you can see that there are a number of variable restrictions, ie. the variable i is corrupted by the routine.

```
1000 LET b$=""
1010 PAUSE 0: LET a$=INKEY$
1020 IF CODE a$>127 THEN GO TO 1010
1030 IF a$=CHR$ 13 THEN PRINT: RETURN
1040 IF a$<>CHR$ 12 THEN GO TO 1100
1049 REM backspace
1050 IF b$="" THEN GO TO 1010
1060 LET b$=b$(TO LEN b$-1)
1070 PRINT CHR$(8); " ";CHR$(8);
1080 GO TO 1010
1100 IF LEN b$=32 OR CODE a$<32 THEN GO TO 1010
1110 LET b$=b$+a$
1120 PRINT a$;
1130 GO TO 1010
```

Listing 2b

The equivalent Spectrum Basic to Listing 2a, although seemingly shorter, is somewhat lacking in structure. The problem of variable restriction is also present.

```
1000 PLOT x,y: DRAW width,0
1010 DRAW 0,height: DRAW -width,0
1020 DRAW 0,-height
1030 RETURN
```

Listing 3b

Spectrum Basic allows the routine in Listing 3a to be written in a simpler fashion — it uses a DRAW statement that is relative rather than the QL's absolute equivalent.

```
1000 LET a=(INT (a*100))/100
1010 IF a<.01 THEN PRINT " 0.00"; RETURN
1020 IF a>100 THEN PRINT " ?.??" : RETURN
1030 LET a$=STR$ a
1040 IF a$(1)="" THEN LET a$="0"+a$
1050 IF a$(LEN a$-1)="" THEN LET a$=a$+"0"
1060 IF a$(LEN a$-2)<>"." THEN LET a$=a$+".00"
1070 IF LEN a$<9 THEN LET a$=" "+a$: GO TO 1070
1080 LPRINT a$;
1090 RETURN
```

Listing 4b

To simulate Listing 4a in Spectrum Basic, you come up against the same problem experienced in Listing 1b — namely, that of variable restrictions, ie. you lose the old value of the variables, a and a\$.

trum version, in Listing 3b, is a bit simpler than the QL version because it uses a relative DRAW statement, whereas the QL's is absolute.

Listing 4a shows another QL procedure called 'pformat', which prints a number right-justified on the decimal point and therefore it's for printing currency. It's probably called 'pformat' because format is a reserved word; there's already a Basic statement with that name. It uses a LOCAL statement, as well as a REPEAT loop to finally right-justify the output string, a\$. It uses the STR\$ command, found on most other Basics but missing from the Super-Basic manual. Because of the variable coercion on the QL, it may well be possible to replace it with: 1050 a\$=a.

The equivalent Spectrum program is shown in Listing 4b, and its main disadvantage is again the loss of the old value of variables, a and a\$.

The use of procedures greatly enhances the readability of programs if

"SuperBasic has some interesting features, particularly its ability to use Pascal-like structures, similar to BBC Basic"

used properly and, with sensible names. As an example:

```
100 print __ instructions
110 setup __ game
120 play(speed)
130 do __ highscore
```

is much more understandable than a possible Spectrum equivalent of:

```
100 GO SUB 9000
110 GO SUB 2300
120 GO SUB 4200
130 GO SUB 1200
```

The way that functions and procedures add features to QL Basic is extremely useful, so much so that on switching on your QL, it will ask you if you want to LOAD any from Microdrive.

I hope this has given an insight into the 'structured' aspects of Super-Basic on the QL; you can all practice now while waiting for one to be delivered. Who knows, if it really catches on, it could be the end of the GO TO for good!

SINCLAIRWATCH

BY GUTTERSNIPE

Well, Sinclair Research has done it again — not only has it launched the world-beating QL, there also looks like a near record-breaking delivery delay to go with it.

At the time of the QL launch, assurances were made that the first customers should get their machines by the end of February, and that the 28-day promises on the adverts would be stuck to. Mind you, the launch wasn't without its sceptics, especially when it was discovered that the Microdrives weren't fully working under QDOS — and that not one single machine was available for review. Indeed, it transpires that the Microdrive problem was the reason why the four Psion programs shown were stored elsewhere, and not Sir Clive's tricky little tapes.

Late Again!

The climaxing anticipation had burnt out to a whimper by the end of February. Not a single customer had come even within a sniff of receiving a QL and indeed Sinclair Research hadn't even made enough to allow review machines to be sent out. Unhappy punters received a letter giving reasons for the delay — 'phenomenal demand' it said, but just how demand for a new product can be so great as to halt production is a little puzzling.

The more experienced Sinclairologist among us may remember hearing this particular excuse before — it was also used to explain away the delays for the ZX Spectrum, the ZX Printer, the 16K RAM Pack, the ZX81, the ZX80 and even the Mk 14 — in other words, every single Sinclair Research computer product. Using the same excuse for the same inexcusable delay shows at the very least a profound lack of imagination.

The tragedy is that the QL disappointment (and, in retrospect, the Spectrum one too) was easily avoidable. If Sinclair Research had launched, but not taken any advertisements (or for that matter, printed any order forms) until the production line was genuinely cranking into action, then customers might have been a lot happier with the odd delay or two. Certainly, it would have been a tonic for Sinclair

Research's market image. And as such as the company is quick to assure that the millions of pounds worth of cheques are going to be placed in a trust fund until the transactions are about to take place — in asset terms it's almost as good as money in the bank.

Just how long the delays are likely to be is difficult to assess, but those who ordered their QLs on the launch day have been told they should now get them by the end of April — a nail-biting wait of over three months. The less fortunate ones (Guttersnipe included) who ordered a few days after the launch, and those who replied to the lavish colour ads have been told that the wait could be as long as the end of June. At the current rate, with orders flooding in (at a reported rate of 500 a day) and QLs trickling out, the BBC Micro-style six month delays look all too imminent.

Chip Chat

What of the QL itself? Although with the absence of real machines no-one can be absolutely sure, it looks amazingly impressive — in fact, almost identical to the machine predicted in YS's *Sinclairwatch* in issue one, with a real keyboard, dual processors and two Microdrives. The lesser eight-bit processor is the Intel 8049, commonly found inside dot-matrix printers, while the main chip is the Motorola 68008, a cut-down version of the immensely powerful 68000.

At the QL launch, Sir Clive was heard to state that "we waited for the 32-bit chip to get the extra memory". Needless to say, the 68008 only addresses 1Mbyte of memory (unlike its kith and kin in the 68000 series which

addresses 16Mbytes) — exactly the same as any good ol' 16-bit chip, such as the 8088. Still, the argument over whether it's a '32-bit' chip will rage for some time yet, but Sinclair Research is the first outfit to term any member of the 68000 '32-bit'. Even its manufacturers refer to the 68008 as a '16-bitter'. The keyboard is thankfully pretty good, although with slightly non-standard layout — particularly the symbols above the numeric keys.

The Microdrives on the QL are improved Spectrum types, with the specification printed in the early Spectrum adverts. Some argue that Microdrives are not the ideal storage media for a business machine, not just because of their slow speed and lack of true random access, but because of the cartridge cost and the problems involved in their mass-duplication.

You Want It When?

The news of the QL launch probably came as a piece of bad news to those working for the Advertising Standards Authority; it's by no means unknown for the ASA to step in over the company's advertising of new products. But it seems the authority's protests in the past have had some effect back at the ranch; this time, the company contacted them first, explaining the problems over the 28-day clause on their adverts.

The result is that the latest ads say "Delivery may take longer than 28 days". This self-evident statement may perhaps ease the situation somewhat, though the ultimate cure would be for Sinclair Research to stop advertising for a while.



A rare shot of someone getting their hands on a QL (courtesy of Fantasy Photographs Ltd.).